

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 09-272987

(43)Date of publication of application : 21.10.1997

(51)Int.Cl.

C23C 30/00

C23C 28/00

(21)Application number : 09-022669

(71)Applicant : TOSHIBA CORP

(22)Date of filing : 05.02.1997

(72)Inventor : YASUDA KAZUHIRO  
 SUENAGA SEIICHI  
 WADA KUNIIHIKO  
 NAKABASHI MASAKO

(30)Priority

Priority number : 08 18565 Priority date : 05.02.1996 Priority country : JP

## (54) HEAT RESISTANT MEMBER

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a heat resistant member durable against a long term use under a high temp. atmosphere and an operation environment where thermal cycle or thermal shock is impressed by improving both properties of thermal fatigue property and thermal shock resistance of a ceramic heat insulating layer.

**SOLUTION:** The heat resistant member is provided with the ceramic heat insulating layer 3 formed by applying directly on a metallic base material 1 or through a metallic bonding layer 2 formed on the metallic base material 1. The ceramic heat insulating layer 3 is provided on the metallic bonding layer 2 (or the metallic base material 1) and has a 1st ceramic layer 3a having high elastic modulus and high hardness and a 2nd ceramic layer 3b provided on the 1st ceramic layer 3a and having low elastic modulus and low hardness. The 1st ceramic layer 3a is, for example, a high density layer having  $\geq 88\%$  relative density and the 2nd ceramic layer 3b is a low density layer having  $< 88\%$  relative density.

